

## II. CLAIM AMENDMENTS

14. (Currently Amended) A method of demultiplexing a multiplexed signal, said multiplexed signal comprising ~~one or more packet data units, the packet data units including data packets belonging different logical channels, including a video data unit, and a framing data block~~ the packet data units being delimited by framing flags, the framing data block carrying information on the configuration of the data units in said multiplex signal, the method comprising:

searching for said framing data block flags from a received multiplexed signal and de-framing the packet data units with reference to the framing flags;

demultiplexing said one or more the data packets belonging to the different logical channels from the packet data units according to the information in said framing data block, and assembling them into generating one or more demultiplexed signals, including a demultiplexed video data signal, from said demultiplexed data units,

~~wherein the method further comprises:~~

~~forwarding said demultiplexed video data signal to a video decoder for decoding;~~

detecting ~~at demultiplexing a possible invalidity of a demultiplexed video data units~~ signal by examining errors encountered while de-framing the packet data units; and

~~forwarding, as a response to detecting an invalidity in a demultiplexed video data unit,~~ a possibly invalid demultiplexed signal to a corresponding decoder for the logical channel and further providing the decoder with an error type indication to the video decoder with the demultiplexed video data signal for use by the decoder during decoding of the demultiplexed signal to enable recovery from the error.

15. (Currently Amended) A method according to claim 14, further comprising forwarding error location information relating to the demultiplexed ~~video data~~ signal to the ~~video~~ decoder, the error location information indicating the location of erroneous bits in the demultiplexed ~~video data~~ signal.

16. (Previously Presented) A method according to claim 15, wherein the error location information comprises a table of error locations.

17. (Currently Amended) A method according to claim 15, wherein if it is not possible to determine the location of erroneous bits in the demultiplexed ~~video data~~ signal, a general error indication is forwarded to the ~~video~~ decoder.

18. (Currently Amended) A method according to claim 14, further comprising adding the error type indication to the demultiplexed ~~video data~~ signal.

19. (Currently Amended) A method according to claim 18, further comprising adding error location information to the demultiplexed ~~video data~~ signal, the error location information indicating the location of erroneous bits in the demultiplexed ~~video data~~ signal.

20. (Previously Presented) A method according to claim 19, wherein the error location information comprises a table of error locations.

21-23. (Cancelled)

24. (Currently Amended) A method according to claim 14, wherein said framing ~~data blocks~~ flags ~~comprise an~~ are HDLC flags used in HDLC-type framing.

25. (Currently Amended) A method according to claim 14, wherein said framing ~~data blocks~~ flags ~~comprise a~~ are PN flags used in PN-type framing.

26-27. (Cancelled)

28. (Currently Amended) A method according to claim 14, wherein the step of detecting ~~a possible invalidity of a demultiplexed video data unit signal~~ by examining errors encountered while de-framing the packet data units comprises:

assembling data packets belonging to a particular logical channel into a data segment having an associated sequence number; and

checking the validity of said sequence number associated with a demultiplexed video data unit in order to determine whether a data packet belonging to said particular logical channel is missing.

29. (Currently Amended) A method according to claim 28, wherein said ~~demultiplexed video data unit~~ segment is an AL-PDU.

30. (Currently Amended) A method according to claim 28, wherein ~~if the step of detecting a possible invalidity of a demultiplexed video data unit by checking the validity of a sequence number associated with said demultiplexed video data unit reveals~~ when it is determined that a video data unit packet belonging to said particular logical channel is missing, the method further comprises substituting the missing ~~video data unit packet~~ in the ~~demultiplexed video data signal~~ with an empty video data unit packet.

31. (Currently Amended) A method according to claim 28, wherein ~~if the step of detecting a possible invalidity of a demultiplexed video data unit by checking the validity of a sequence number associated with said demultiplexed video data unit reveals~~when it is determined that a video data unit packet belonging to said particular logical channel is missing, the demultiplexed video data unit is considered invalid and then~~an error type indication forwarded to the video decoder as a response to detecting an invalidity in the demultiplexed video data unit is~~indicative of a missing video data unit packet is forwarded to the corresponding decoder for the particular logical channel.

32. (Currently Amended) A method according to claim 14, wherein the step of detecting ~~a possible invalidity of a demultiplexed video data unit~~signal by examining errors encountered while de-framing the packet data units comprises checking for illegal bit combinations in a ~~demultiplexed video packet data unit.~~

33. (Cancelled)

34. (Currently Amended) A method according to claim 14, wherein the step of detecting ~~a possible invalidity of a demultiplexed video data unit~~signal by examining errors encountered while de-framing the packet data units comprises checking an assumed header portion of a ~~demultiplexed video packet data unit~~ for errors<sub>7</sub>. ~~wherein if the assumed header portion is found to contain an error a further check is performed to determine~~

~~whether the length of the demultiplexed video data unit agrees with an expected length of the demultiplexed video data unit.~~

35. (Cancelled)

36. (Currently Amended) A method according to claim 14, wherein the step of detecting ~~a possible invalidity of a demultiplexed video data unit~~signal by examining errors encountered while de-framing the packet data units comprises:

-assembling data packets belonging to a particular logical channel into a data segment; and

checking the length of a demultiplexed video data unit said data segment against a predetermined maximum length for said data segment.

37. (Currently Amended) A method according to claim 36, wherein ~~if the step of detecting a possible invalidity of a demultiplexed video data unit by checking the length of a demultiplexed video data unit reveals~~when it is determined that the length of said demultiplexed video data unit segment has a length exceeding asaid predetermined maximum length, ~~the demultiplexed video data unit is considered invalid and~~the an error type indication indicative of a concatenation of data packets is forwarded to the corresponding video decoder for the particular logical channel ~~as a response to detecting~~

~~an invalidity in the demultiplexed video data unit is indicative of a concatenation of video data units.~~

38. (Cancelled)

39. (Currently Amended) A method according to claim 14, wherein the step of detecting a possible invalidity of a demultiplexed ~~video data unit~~signal by examining errors encountered while de-framing the packet data units comprises searching for a shifted location of the starting point of a demultiplexed ~~video data unit~~packet belonging to a particular logical channel.

40. (Currently Amended) A method according to claim 39, wherein ~~if the step of detecting a possible invalidity of a demultiplexed video data unit by searching for a shifted location of the starting point of a demultiplexed video data unit reveals~~when it is determined that the starting point of a demultiplexed video data unit packet belonging to a particular logical channel is shifted, the demultiplexed video data unit is considered invalid and then an error type indication indicative of a shifted data packet is forwarded to the video~~corresponding~~ decoder for the particular logical channel~~as a response to detecting an invalidity in the demultiplexed video data unit is indicative of the demultiplexed video data unit having a shifted starting point.~~

41. (Currently Amended) A method according to claim 40, wherein when it is determined that the starting point of a data packet

belonging to a particular logical channel is shifted, the method further comprises indicating the shifted location of the starting point of the demultiplexed video data unit packet is indicated to the video corresponding decoder for the particular logical channel.

42. (Currently Amended) A device for demultiplexing a multiplexed signal, said multiplexed signal comprising ~~one or more~~ packet data units, the packet data units including a video data unit data packets belonging to different logical channels, and the packet data units being delimited by framing data block flags, the framing data block carrying information on the configuration of the data units in said multiplex signal, said device comprising:

an input for receiving the multiplexed signal,

a processor; and

a set of outputs for forwarding demultiplexed signals to corresponding decoders,

the device being arranged to:

~~means for searching for said framing data block flags in from~~ a received multiplexed signal and to de-frame the packet data units with reference to the framing flags;



~~means for demultiplexing said one or more the data units~~packets belonging to different logical channels from the packet data units according to the information in said framing data block, and assemble them into ~~means for generating one or more demultiplexed signals, including a demultiplexed video data signal from said demultiplexed data units,~~

~~wherein said device further comprises:~~

~~— means for forwarding said demultiplexed video data signal to a video decoder for decoding;~~

~~means for detecting at demultiplexing a~~ possible invalidity of a demultiplexed video data units~~signal by examining errors encountered while de-framing the packet data units; and~~

~~means for forwarding, as a response to detecting an invalidity in a demultiplexed video data unit~~ a possibly invalid demultiplexed signal to the corresponding decoder for the logical channel and further provide the decoder with, an error type indication to the video decoder with the demultiplexed video data signal~~for use by the decoder during decoding of the demultiplexed signal to enable recovery from the error.~~

43. (Currently Amended) A device according to claim 42, further comprising ~~means for~~arranged to forwarding error location

information relating to the demultiplexed ~~video data~~ signal to the ~~video~~ decoder, the error location information indicating the location of erroneous bits in the demultiplexed ~~video data~~ signal.

44. (Currently Amended) A device according to claim 43, ~~comprising means for~~arranged to forwarding a general error indication to the ~~video~~ decoder if it is not possible to determine the location of erroneous bits in the demultiplexed ~~video data~~ signal.

45. (Currently Amended) A device according to claim 42, further ~~comprising means~~arranged to ~~for~~ adding the error type indication to the demultiplexed ~~video data~~ signal.

46. (Currently Amended) A device according to claim 45, ~~comprising means for~~further arranged to adding error location information to the demultiplexed ~~video data~~ signal, the error location information indicating the location of erroneous bits in the demultiplexed ~~video data~~ signal.

47-50. (Cancelled)

51. (Currently Amended) A device according to claim 42, ~~wherein said means for~~arranged to detecting a possible invalidity of a demultiplexed ~~video data units~~signal ~~comprises means for~~ by assembling data packets belonging to a particular logical channel into a data segment having an associated sequence

number and checking the validity of a said sequence number associated with a demultiplexed video data unit, in order to determine whether a data packet belonging to said particular logical channel is missing wherein if said means for detecting a possible invalidity of a demultiplexed video data unit detects an invalidity in a sequence number associated with the demultiplexed video data unit, it is arranged to interpret such an invalidity as being indicative of a missing video data unit.

52. (Currently Amended) A device according to claim 51, ~~comprising means for~~arranged to substituting a missing video data unit packet in the demultiplexed video data signal with an empty video data unit packet.

53. (Currently Amended) A device according to claim 51, ~~wherein said means for forwarding an error type indication to the video decoder is arranged to forward an error type indication indicative of a missing video data unit packet to the video~~corresponding decoder ~~if said means for detecting a possible invalidity of a demultiplexed video data unit detects an invalidity in a sequence number associated with a demultiplexed video data unit~~when it is determined that a data packet belonging to said particular logical channel is missing.

54. (Currently Amended) A device according to claim 42, ~~wherein said means for~~arranged to detecting a possible invalidity of a demultiplexed video data unit signal comprises means for~~by~~

checking for illegal bit combinations in a ~~demultiplexed video packet~~ data unit.

55. (Cancelled)

56. (Currently Amended) A device according to claim 42, ~~wherein said means for~~arranged to detecting a possible invalidity of a demultiplexed video data unit~~signal comprises means for~~by checking an assumed header portion of a demultiplexed ~~videopacket~~ data unit for errors, ~~wherein if said means for detecting a possible invalidity of a demultiplexed video data unit detects an error in the assumed header portion, it is arranged to perform a further check to determine whether the length of the demultiplexed video data unit agrees with an expected length of the demultiplexed video data unit.~~

57. (Cancelled)

58. (Currently Amended) A device according to claim 42, ~~wherein said means for~~arranged to detecting a possible invalidity of a demultiplexed video data unit~~signal comprises means for~~by:

assembling data packets belonging to a particular logical channel into a data segment; and

checking the length of a ~~demultiplexed video data unit~~said data segment against a predetermined maximum length for said data segment.

59. (Currently Amended) A device according to claim 58, ~~wherein said means for~~arranged to forwarding an error type indication indicative of a concatenation of data packets to the corresponding video decoder for the logical channel ~~is arranged to forward an error type indication indicative of a concatenation of video data units to the video decoder if said means for detecting a possible invalidity of a demultiplexed video data unit~~when it is determined that the length of a said demultiplexed video data unit segment has a length exceeding said predetermined maximum length.

60. (Cancelled)

61. (Currently Amended) A device according to claim 42, ~~wherein said means for~~arranged to detecting a possible invalidity of a demultiplexed video data unitsignal comprises means forby searching for a shifted location of the starting point of a demultiplexed video data unit packet belonging to a particular logical channel.

62. (Currently Amended) A device according to claim 61, ~~wherein said means for forwarding an error type indication to the video decoder~~ is arranged to forward an error type indication indicative of a demultiplexed video shifted data unit packet having a shifted starting point to the corresponding video

decoder for the particular logical channel ~~if said means for detecting a possible invalidity of a demultiplexed video data unit~~ when it is determined that the starting point of a demultiplexed video data unit ~~packet belonging to a particular logical channel~~ is shifted.

63. (Currently Amended) A device according to claim 62, ~~wherein said means for detecting a possible invalidity of a demultiplexed video data unit~~ is arranged to indicate the shifted location of the starting point of the ~~demultiplexed video data unit~~ packet to the ~~video~~ corresponding decoder for the particular logical channel.

64. (Currently Amended) A multimedia terminal comprising a demultiplexeor for demultiplexing a multiplexed signal, said multiplexed signal comprising ~~one or more~~ packet data units, including a ~~video data unit~~ packets belonging to different logical channels, and ~~at the packet data units being delimited by framing data block flags, the framing data block carrying information on the configuration of the data units in said multiplex signal,~~ said demultiplexeor comprising:

~~a video decoder;~~ an input for receiving a multiplexed signal;

a processor; and

a set of outputs for forwarding demultiplexed signals to corresponding decoders,

the multiplexor being arranged to:

~~means for searching for said framing data block~~flags in from  
a received multiplexed signal and to de-frame the packet data  
units with reference to the framing flags;

~~means for demultiplexing said one or more the data~~  
~~units~~packets belonging to different logical channels from the  
packet data units according to the information in said framing  
data block, and assemble them into~~means for generating one or~~  
~~more demultiplexed signals, including a demultiplexed video~~  
~~data signal from said demultiplexed data units,~~

~~wherein the demultiplexer of said multimedia terminal further~~  
~~comprises:~~

~~means for forwarding said demultiplexed video data signal to~~  
~~the video decoder for decoding;~~

~~means for detecting at demultiplexing a possible invalidity~~  
~~of a demultiplexed video data units~~signal by examining errors  
encountered while de-framing the packet data units; and

~~means for forwarding, as a response to detecting an invalidity in a demultiplexed video data unit a possibly invalid demultiplexed signal to the corresponding decoder for the logical channel and further provide the decoder with, an error type indication to the video decoder with the demultiplexed video data signal for use by the decoder during decoding of the demultiplexed signal to enable recovery from the error.~~

65. (Currently Amended) A multimedia terminal according to claim 64, further comprising a video decoder, wherein the video decoder ~~of the multimedia terminal~~ is adapted to use the error type ~~information~~ indications provided by the demultiplexor to conceal errors in ~~thea~~ demultiplexed video data signal.

66. (Currently Amended) A ~~device~~ multimedia terminal according to claim 64, wherein the demultiplexor comprising means for further arranged to forwarding error location information relating to the demultiplexed ~~video data~~ signal to the video decoder, the error location information indicating the location of erroneous bits in the demultiplexed ~~video data~~ signal.

67. (Currently Amended) A multimedia terminal according to claim ~~64~~ 66, comprising a video decoder, wherein the video decoder ~~of the multimedia terminal~~ is adapted to use the error location information provided by the demultiplexor to conceal errors in ~~thea~~ demultiplexed video data signal.



68. (Previously Cancelled)

69. (New) A method according to claim 15, wherein the error location information is determined by analysing de-framing data obtained by de-framing more than one contiguous packet data unit.

70. (New) A method according claim 14, wherein the step of detecting possible invalidity of a demultiplexed signal by examining errors encountered while de-framing the data units comprises checking information in the packet data unit relating to the size of the data belonging to the different logical channels.

71. (New) A method according to claim 36, wherein the data segment is a MUX-SDU.

72. (New) A device according to claim 43, arranged to determine the error location information by analysing de-framing data obtained by de-framing more than one contiguous packet data unit.

73. (New) A device according claim 42, arranged to detect possible invalidity of a demultiplexed signal by checking information in the packet data unit relating to the size of the data belonging to the different logical channels.